ADAMSON

E-Series | User Manual

Declarations

CE Declaration of Conformity

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Adamson Systems Engineering declares, that the products stated below are in conformance with the relevant fundamental health and safety criteria of the applicable EC Directive(s), in particular:

Port Perry, June 24th, 2014

Brock Adamson (President & CEO)

ADAMSON
BUILT. STRONG.

Directive 2006/95/EC: Low Voltage Directive
974-0001 E12
975-0001 E15
992-0007 E218
994-0001 E219

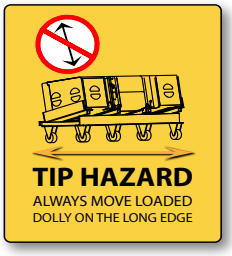
Directive 2006/42/EC: Machinery Directive
974-0001 E12
975-0001 E15
992-0007 E218
994-0001 E219
930-0004 E-Frame with Extender Beam
931-0009 E12/E15 - SpekTrix Underhang
938-0015 E12 Dolly
938-0004 E15 Dolly
938-0016 E218 Dolly
938-0020 E219 Dolly
938-0014 Dolly Stacking Legs

CE

Section A

Warning & Safety Symbols

Throughout this manual the potential risks are indicated by these symbols.



ATTENTION

It is compulsory to read this manual before using the E-Series system. Supervision and competency are the responsibility of the system owners and operators. All intersections, joints and rigging hardware must be inspected regularly. Operators must not assume rigging has been inspected prior to use by someone else.

Section A

Safety Precautions

English

- Read these instructions, keep them available for reference, they can be downloaded any time from https://www.adamsonsystems.com/index.php/support . Heed all warnings and follow all instructions.
- Servicing is required when the loudspeaker has been damaged in any way, such as when the loudspeaker has been dropped; or when for undetermined reasons the loudspeaker does not operate normally.
- Protect the cabling from being walked on or pinched.
- Use only with the rigging frames/accessories specified by Adamson, or sold with the loudspeaker system.
- This speaker enclosure is capable of creating a strong magnetic field. Please use caution around the enclosure with data storage devices such as hard drives.
- Handles are for moving the system only.

Francais

- Lire les instructions ci dessous, maintenez-les disponibles pour référence. Ils peuvent être téléchargés à tout moment à cette adresse. https://www.adamsonsystems.com/index.php/support .Tenez compte de tous les avertissements et suivez toutes les instructions.
- Une maintenance s'avère nécessaire lorsqu'une enceinte a été endommagé de quelque façon que ce soit. Que celle ci soit tombé ou qu'elle ne fonctionne pas normalement pour des raisons indéterminées.
- Protéger le câblage contre l'écrasement.
- Utiliser uniquement les accessoires d'accrochage fourni par ADAMSON ou vendu avec les enceintes.
- Cette enceinte acoustique génère des champs magnétiques intenses. Prenez les précautions nécessaires avec les appareilles de stockage de données comme les disques durs.
- Les poignées ne doivent servir qu'à déplacer l'enceinte.

Espanol

- Lea estas instrucciones y téngalas a mano cuando las necesite. Puede descargarlas cuando desee desde https://www.adamsonsystems.com/index.php/support. Preste atención a todas las recomendaciones y siga las instrucciones.
- Debe reparar el altavoz cuando haya algún desperfecto de cualquier tipo, por ejemplo cuando haya caído o en ocasiones indeterminadas en que el altavoz no funcione correctamente.
- Proteja el cableado para que no sea pisado o aplastado.
- Utilice solamente los Rigging Frames y accesorios especificados por Adamson o que vengan con el equipo original de Adamson.
- Este recinto acústico es capaz de generar fuertes campos magnéticos. Tenga especial cuidado al utilizar dispositivos de almacenamiento de datos magnéticos como Discos Duros etc.
- Las agarraderas son solo para mover el sistema.

Deutsch

- Lesen sie diese Anleitung und bewahren Sie sie auf. Sie kann jederzeit unter https://www.adamsonsystems.com/index.php/support heruntergeladen werden. Beachten Sie alle Warnungen und folgen Sie allen Anweisungen.
- Service ist notwendig wenn der Lautsprecher in irgendeiner Art beschädigt wurde, z.B. weil er heruntergefallen ist oder wenn er aus anderen Gründen nicht ordnungsgemäß funktioniert.
- Schützen Sie die Lautsprecherkabel davor gequetscht oder geknickt zu werden.
- Verwenden Sie ausschließlich das von Adamson für dieses Lautsprechersystem spezifizierte bzw. das zusammen mit dem System erworbene Rigging-Zubehör.
- Dieser Lautsprecher kann ein starkes magnetisches Feld erzeugen. Bitte seien Sie in der Nähe des Lautsprechers z.B. mit Datenspeichern wie Festplatten entsprechend vorsichtig .
- Die Griffe dienen ausschließlich zum Transport des Lautsprechers

E-Series User Manual

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Introduction & Product Details

1.0 Introduction

This manual is designed to give the E-Series user the necessary information to accurately fly or stack E-Series loudspeakers in all the available configurations, as well as the proper deployment and use of E-Series loudspeakers. Safe step by step rigging procedures will be outlined, as well as example system configurations, correct wiring and amplification and transport.

1.1 Overview

At Adamson, we believe that loudspeakers need to be built from the ground up. This means having total control over every aspect of the design and manufacturing process. The E-Series is the culmination of decades of research that has allowed us to deliver the highest performing, large format line array on the planet.

At the heart of the E-Series is the E-Capsule. It houses the patented Co-Linear Drive Module - a revolutionary dual chamber waveguide concept capable of virtually eliminating mid-frequency lobing in line source designs. The patented Autolock™ rigging system is mounted to this core rather than the cabinet exterior. One engineer can set angles and hoist the system in tight quarters using the smallest and lightest rigging frame in the industry. In true Adamson tradition, Kevlar cones are essential to the design and a part of an unmistakable sonic signature of unmatched vocal clarity, power and punch.

We've set the modern touring standard by using only rugged, durable and light weight materials. From Marine Grade Baltic birch to Air Craft Grade aluminium and Kevlar Neodymium drivers. The entire system is designed to maximize use of space in a standard North American or European truck pack. It features the fastest and most intuitive rigging system available.

Introduction & Product Details

1.2 Predictive Software

Blueprint AV

Blueprint AV is a 2D & 3D modeling suite which offers a fast and intuitive work-flow, without sacrificing precision. The E-Series is included, along with all of Adamson's other Line Array products. Design is simple and easy, yet complex simulation options are at your finger tips.

Use basic geometric shapes to design anything from a basic field to a complex structure. Multi-point extrude and revolve surfaces allow for intuitive arena or stadium design.

Depending on your time constraints, Blueprint AV can be easily switched from in-depth 3D operation to streamlined 2D operation, saving on simulation time.

Once your hang is designed, Blueprint gives you all pertinent mechanical information needed to correctly fly the system.

Blueprint AV is now available as a native Java-run program for both PC and Mac platforms. Please contact blueprint@adamsonsystems.com for license information and technical support.

BLUEPRINT AV

Introduction & Product Details

1.3 E15 Spec Sheet

E15

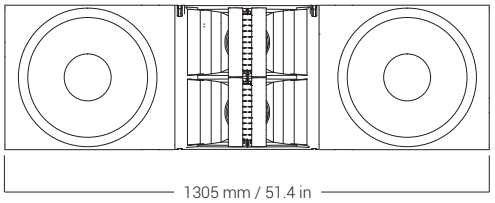
The Adamson E15 is a 3 way, true line source enclosure, incorporating proprietary transducer and waveguide technology which reduces weight and minimizes the footprint. The heart of the E15 is the E-Capsule, which is precisely engineered and constructed of lightweight aluminum. The patent pending skeletal structure provides an accurate and rigid frame for mounting the modular aircraft grade steel Autolock™ rigging system, while simultaneously housing a series of efficient mid-high components coaxially mounted on Adamson's pioneering Co-Linear Drive Modules.

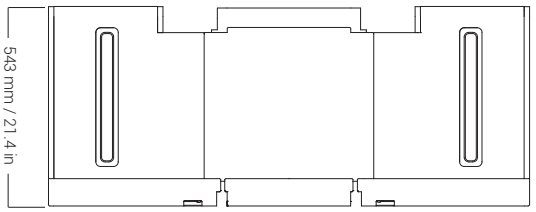
Two vector corrected low-excursion 7" Kevlar Neodymium midrange transducers paired with two next generation 4" HF compression drivers energize the drive modules and provide seamless mid-high energy with no audible distortion at very high SPL levels. Critically optimized waveguides based on a prolate-spheroidal geometry ensure precise pattern control and minimum THD, producing a dispersion pattern of 90° x 6° (H x V). The E-Capsule is flanked with two separate birch ply enclosures, each containing Adamson's proprietary Kevlar Neodymium 15" woofer, capitalizing on the advantages of Adamson's Advanced Cone Architecture and optimized heat dissipation management of the 4" voice coil.

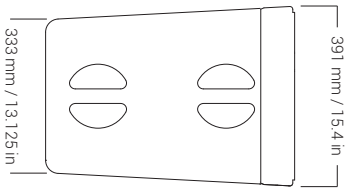
Specifications

Frequency Range (+/-3 dB)	60 Hz - 18 kHz
Nominal Directivity (-6 dB) H x V	90° x 6°
Maximum Peak SPL**	147 dB
Components LF	2x ND15-L 15" Kevlar Neodymium Driver
Components MF	2x YX7 7" Kevlar Neodymium Driver
Components HF	2x NH4TA2 4" Diaphragm / 1.5" Exit Compression Driver
Nominal Impedance LF	2x 8 Ω
Nominal Impedance MF	16 Ω
Nominal Impedance HF	16 Ω
Power Handling (AES / Peak) LF	2x 800 / 2x 3200 W
Power Handling (AES / Peak) MF	700 / 2800 W
Power Handling (AES / Peak) HF	320 / 1280 W
Rigging	Autolock™ Rigging System
Connection	2x Speakon™ NL8
Height Front (mm / in)	391 / 15.4
Height Back (mm / in)	333 / 13.125
Width (mm / in)	1306 / 51.4
Depth (mm / in)	544 / 21.4
Weight (kg / lbs)	79.8 / 176
Processing	Lake

***12 dB crest factor pink noise at 1m, free field, using specified processing and amplification*







Introduction & Product Details

1.4 E12 Spec Sheet

E12

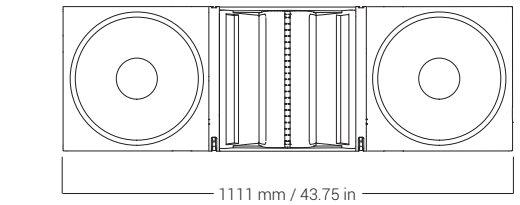
The Adamson E12 is a 3 way, true line source enclosure, incorporating proprietary transducer and waveguide technology which reduces weight and minimizes its footprint. The heart of the E12 is the E-Capsule, which is precisely engineered and constructed of lightweight aluminum. The patent pending skeletal structure provides an accurate and rigid frame for mounting the modular aircraft grade steel Autolock™ rigging system, while simultaneously housing ultra-efficient mid-high components coaxially mounted on Adamson's newly modified E12 Co-Linear Drive Module.

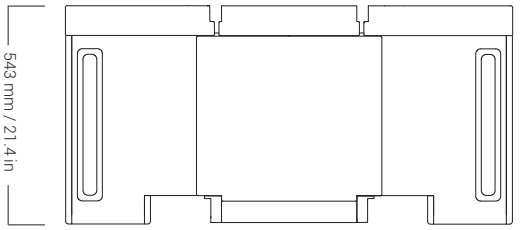
A vector corrected low-excursion 7" Kevlar Neodymium midrange transducer paired with a next generation 4" HF compression driver energize the drive module and provide seamless mid-high energy with no audible distortion at very high SPL levels. The critically optimized waveguide, based on a prolate-spheroidal geometry ensure precise pattern control and minimum THD, producing a dispersion pattern of 110° x 8° (H x V). The E-Capsule is flanked with two separate birch ply enclosures, each containing Adamson's proprietary Kevlar Neodymium 12" woofer, capitalizing on the advantages of Adamson's Advanced Cone Architecture and optimized heat dissipation management of the 4" voice coil.

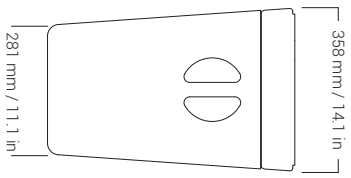
Specifications

Frequency Range (+/-3 dB)	60 Hz - 18 kHz
Nominal Directivity (-6 dB) H x V	110° x 8°
Maximum Peak SPL**	145 dB
Components LF	2x ND12-S 12" Kevlar Neodymium Driver
Components MF	YX7 7" Kevlar Neodymium Driver
Components HF	NH4TA2 4" Diaphragm / 1.5" Exit Compression Driver
Nominal Impedance LF	2x 8 Ω
Nominal Impedance MF	8 Ω
Nominal Impedance HF	8 Ω
Power Handling (AES / Peak) LF	2x 800 / 2x 3200 W
Power Handling (AES / Peak) MF	350 / 1400 W
Power Handling (AES / Peak) HF	160 / 640 W
Rigging	Autolock™ Rigging System
Connection	2x Speakon™ NL8
Height Front (mm / in)	358 / 14.1
Height Back (mm / in)	282 / 11.1
Width (mm / in)	1111 / 43.75
Depth (mm / in)	543 / 21.4
Weight (kg / lbs)	59.9 / 132
Processing	Lake

***12 dB crest factor pink noise at 1m, free field, using specified processing and amplification*







Introduction & Product Details

1.5 E218 Spec Sheet

E218

The E218 subwoofer was developed to pair with the E12 or E15 enclosures. Two light-weight, long excursion ND18-S Kevlar Neodymium drivers which utilize Adamson's Advanced Cone Architecture are mounted in an efficient band-pass subwoofer. The design achieves a remarkable reduction of the rearward radiated energy without dedicated cardioid setups and algorithms. A typical user would appreciate the sonic attack of this design.

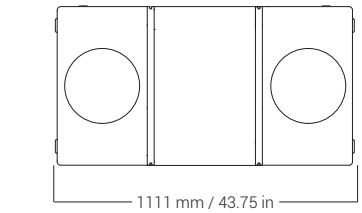
The E218 can be used ground stacked or flown utilizing the E-Frame Full Line. The frame also allows the E218, E219 and E12/E15 enclosures to be flown in the same array.

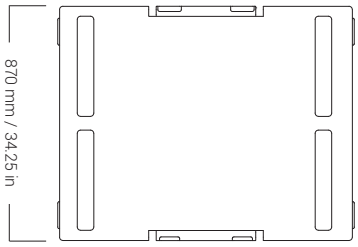
The E218 is constructed of (marine) birch plywood as well as aircraft grade steel and aluminum and is equipped with three Speakon NL8 connectors, two parallel in / out plugs and one dedicated output connection point for efficient cable usage. The integrated rigging system allows for either 0° or 3° splay between adjacent enclosures.

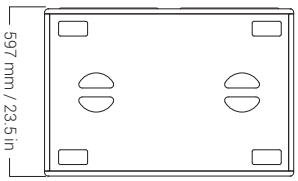
Specifications

Frequency Range (+/- 3dB)	30 Hz - 110 Hz
Maximum Peak SPL**	142 dB
Components LF	2x ND18-S 18" Neodymium Kevlar Driver
Nominal Impedance LF	2x 8 Ω
Power Handling (AES / Peak) LF	2x 800 / 3200 W
Rigging	Flyable with E-Frame Full Line
Connection	3x Speakon™ NL8: 2x Rear Parallel (Pins 1 +/-) and 1x Rear Output (Pin 2 to 1)
Height Front (mm / in)	597 / 23.5
Width (mm / in)	1111 / 43.75
Depth (mm / in)	870 / 34.25
Weight (kg / lbs)	86 / 190
Processing	Lake

***12 dB crest factor pink noise at 1m, half space, using specified processing and amplification*

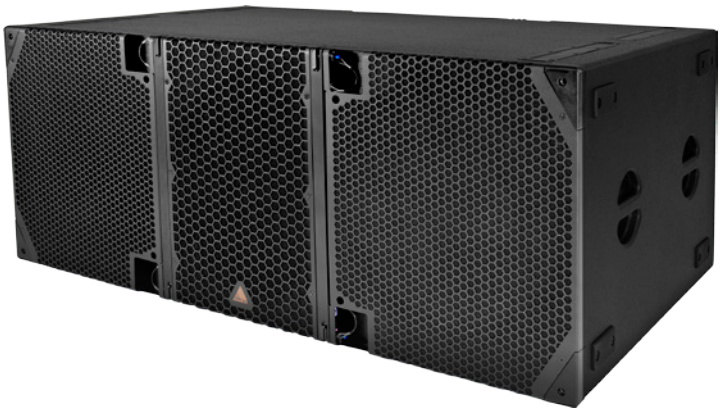






Introduction & Product Details

1.6 E219 Spec Sheet



E219

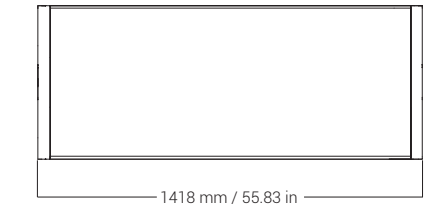
The E219 Subwoofer was developed to bolster the low-end of the E-Series line of products. The enclosure is loaded with two light weight, long excursion, 19" SD19 Kevlar Neodymium drivers utilizing Adamson's Advanced Cone Architecture and Symmetrical Drive Technology. The drivers employ dual 5" voice coils for exceptional power handling, with a dual-spider suspension system for extra stability even under extreme excursion. They are mounted in an ultra-efficient front-loaded enclosure, designed to reproduce clean, musical low frequency information. A typical user would appreciate the lower fundamental notes of this design.

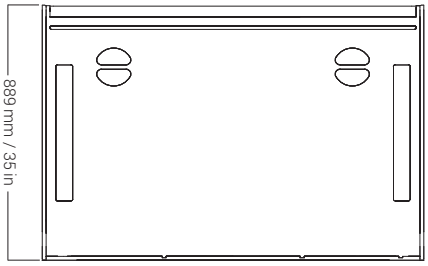
The E219 can be ground stacked or flown utilizing the E-Frame FUll Line. The cabinet construction uses marine grade birch plywood as well as aircraft grade steel and aluminum, and is equipped with three Speakon™ NL8 connectors, two parallel In/Out plugs and one dedicated output connection to optimize speaker cabling. The integrated rigging system allows for either 0° or 3° splay between adjacent cabinets.

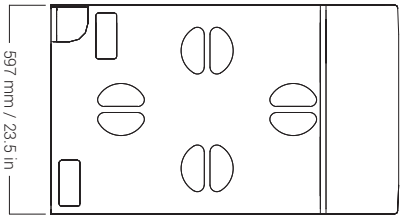
Specifications

Frequency Range (+/- 3dB)	28 Hz - 90 Hz
Maximum Peak SPL**	144 dB
Components LF	2x SD19 19" Kevlar Neodymium Driver
Nominal Impedance LF	2x 5 Ω
Power Handling (AES / Peak) LF	2x 1600 / 2x 6400 W
Rigging	Flyable with E-Frame Full Line
Connection	3x Speakon™ NL8: 2x Rear Parallel (Pins 1 +/-) and 1x Rear Output (Pin 2 to 1)
Height Front (mm / in)	597 / 23.5
Width (mm / in)	1418 / 55.83
Depth (mm / in)	889 / 35
Weight (kg / lbs)	112.9 / 249
Supported Processing	Lake

***12 dB crest factor pink noise at 1m, half space, using specified processing and amplification*







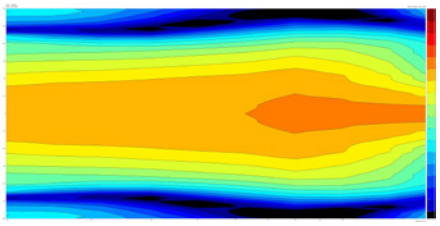
Introduction & Product Details

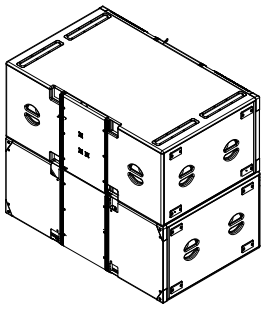
1.7 Cardioid Subs

Every Adamson subwoofer has specifically designed cardioid presets. Adamson utilizes three configurations ranging from a minimal footprint and minimized rear rejection to larger setups that eliminate virtually all audio energy behind the array. Please refer to the Lake Preset Loading Manual for further instructions.

Front-Back

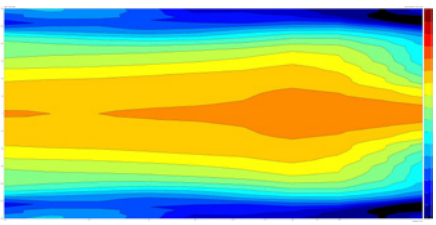
The FB preset should be used in situations where a minimal footprint is desired. Only 2 enclosures stacked ensures that sightlines will not be impaired.

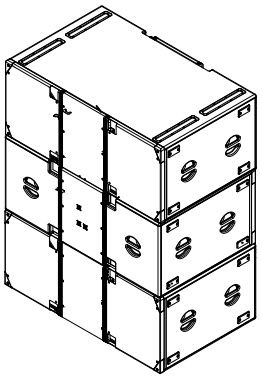




Front-Back-Front

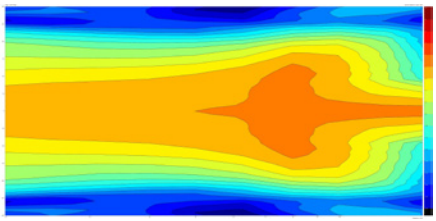
The FBF preset exhibits higher output from the front of the array. A similar footprint to the FB configuration, this stack is 3 enclosures high.

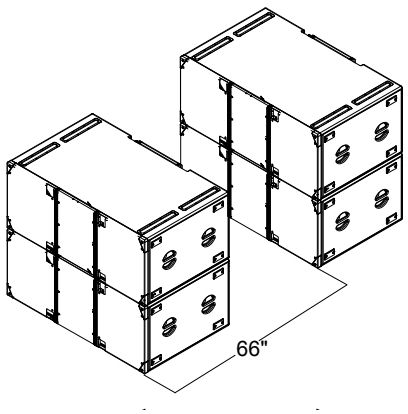




End-Fire 66

The EF66 preset should be used in situations where the most rear cancellation is desired. Unlike traditional end-fire arrays, Adamson's proprietary preset eliminates a wide range of frequencies in the rear of the array.





System Configuration

2.0 E-Rack Description

Adamson Touring Rack

Adamson has developed a unified rack solution, configured to interface seamlessly with our line of loudspeaker products. All E-Racks are equipped with two or three Lab. gruppen PLM+ series amplifiers, featuring Lake processing and Dante audio networking functionality. The Adamson Audio Panel provides Analog and AES inputs, Speakon NL8 and Socapex outputs, and etherCON RJ45 connections, designed for dual redundant Dante setups. A managed Gigabit Ethernet switch and an AC distribution panel available in 120 V or 230 V versions complete the hardware. The entire package fits into a compact and lightweight 10U rack, designed with interior suspension, hinged doors and extra rails for secure & efficient use of space.

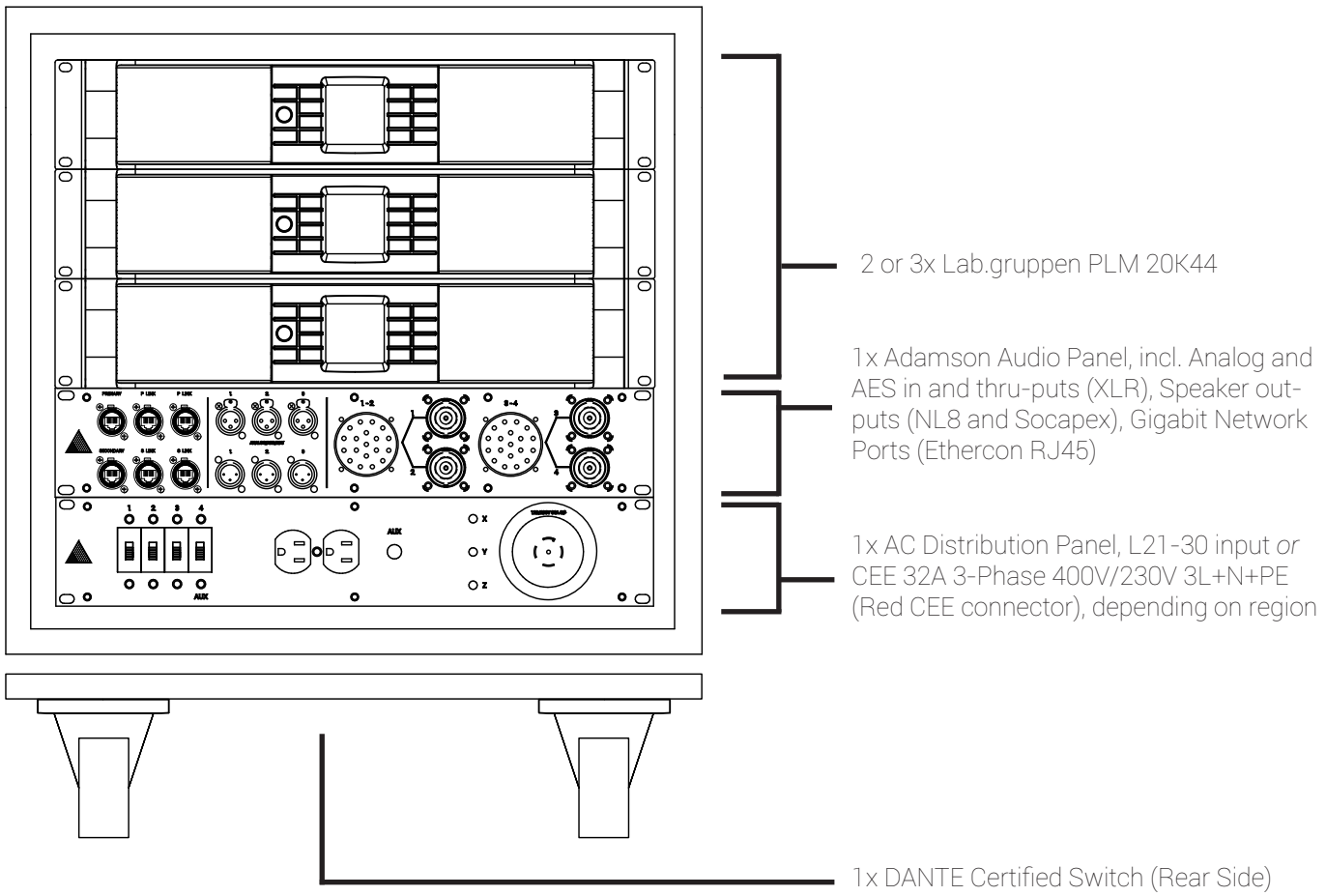
E-Rack elements are comprised of:

- 10U suspended rack with hinged, sliding front and rear doors
- Up to three Lab.gruppen PLM 20K44 amplifiers (8 and 12-Channel versions available)
- Adamson Audio Panel
- Adamson AC Panel, 120 V or 230 V (region specific)
- Cisco SG300-20 managed switch
- Includes one BLUEPRINT AV Personal License per rack

System Configuration

2.1 E-Rack Overview

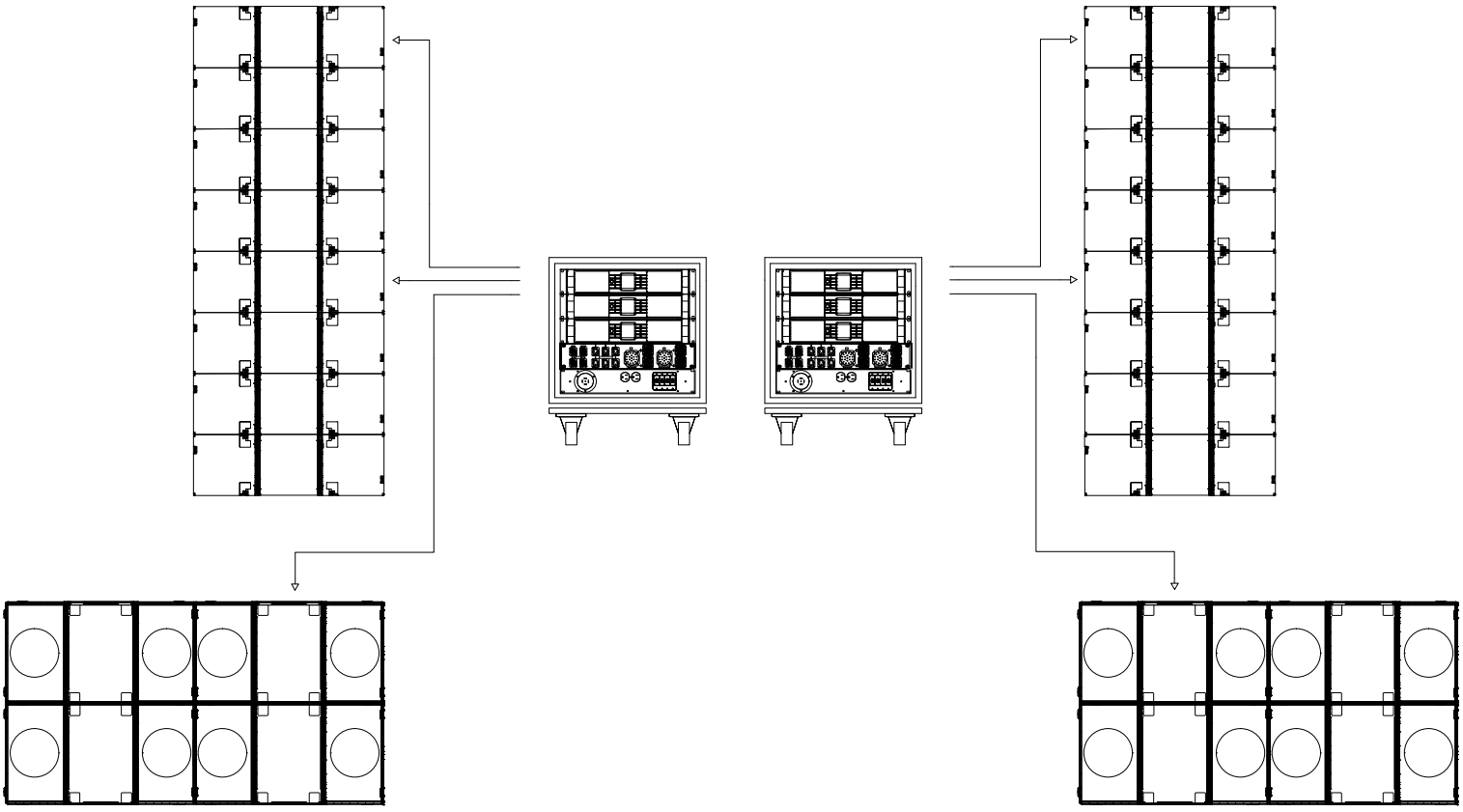
Adamson has developed a unified rack solution configured to interface seamlessly with our line of Loudspeaker products. For more information on the E-Rack, please refer to the E-Rack brochure available on the Adamson Systems website.


2 or 3x Lab.gruppen PLM 20K44
1x Adamson Audio Panel, incl. Analog and AES in and thru-puts (XLR), Speaker outputs (NL8 and Socapex), Gigabit Network Ports (Ethercon RJ45)
1x AC Distribution Panel, L21-30 input *or* CEE 32A 3-Phase 400V/230V 3L+N+PE (Red CEE connector), depending on region
1x DANTE Certified Switch (Rear Side)

System Configuration

2.2 Configuration Example

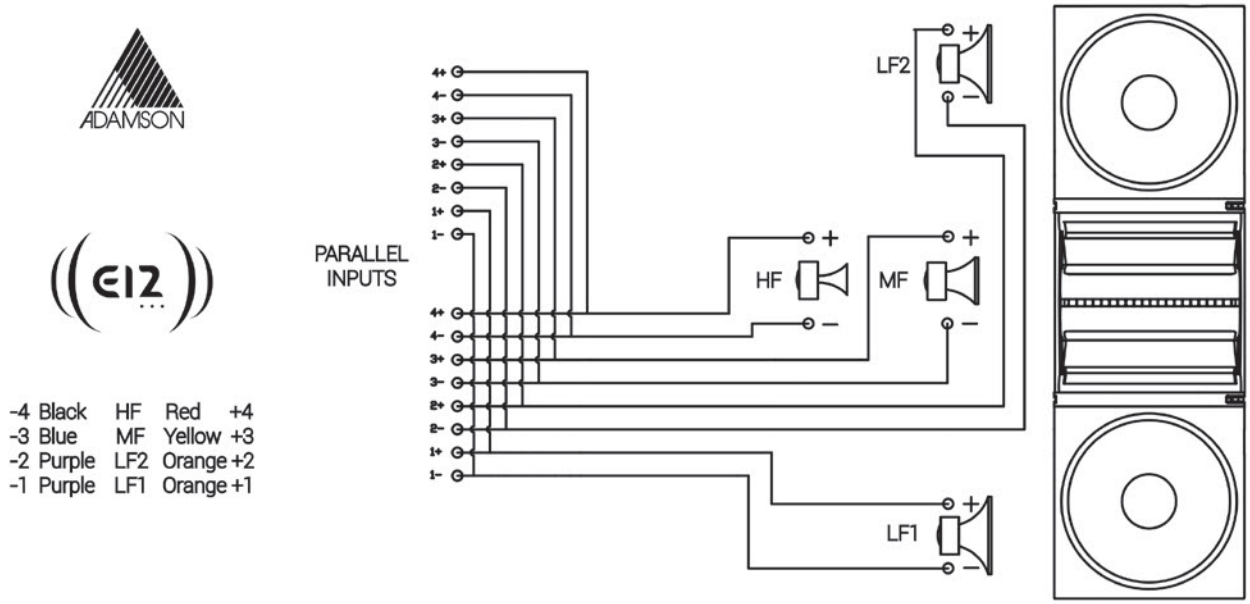
This example configuration demonstrates the efficiency of the system. For further information regarding configurations, please refer to the Adamson Document E-Series Configuration Brochure.



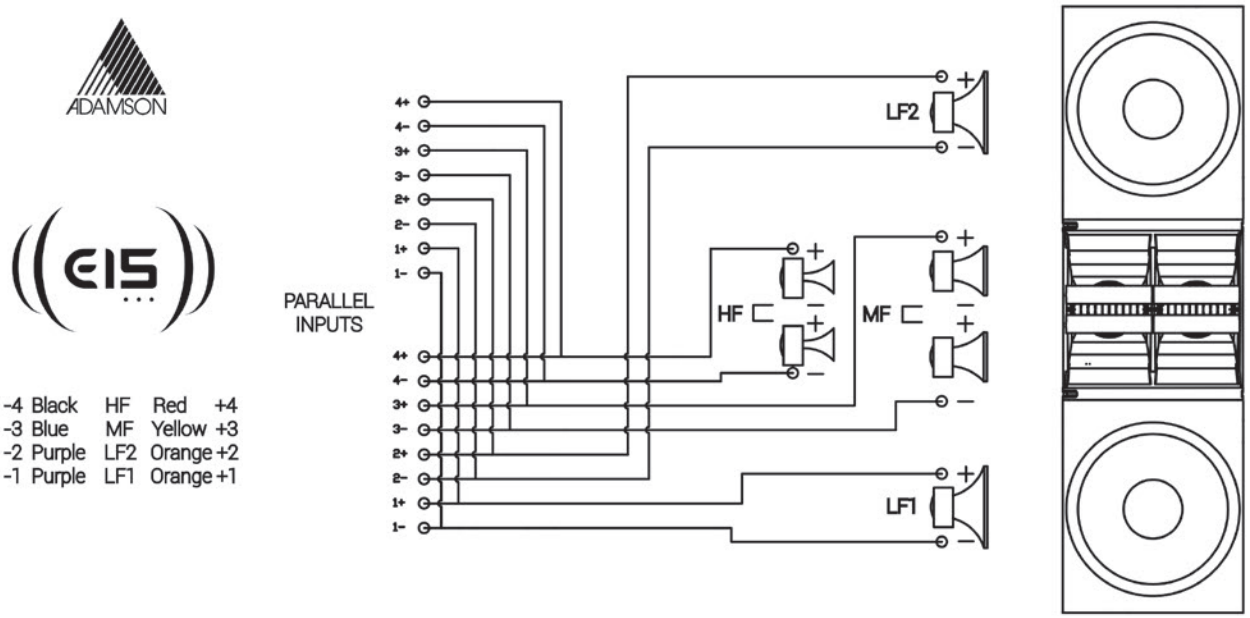
System Configuration

2.3 Wiring Diagrams

E12
3-way line source enclosure [974-0001]
LF - 2x 12" ND12-S[940-0022], MF - 1x 7" YX7 [940-0020], HF - 1x 4"NH4 [140-0004]
Autolock™ rigging system



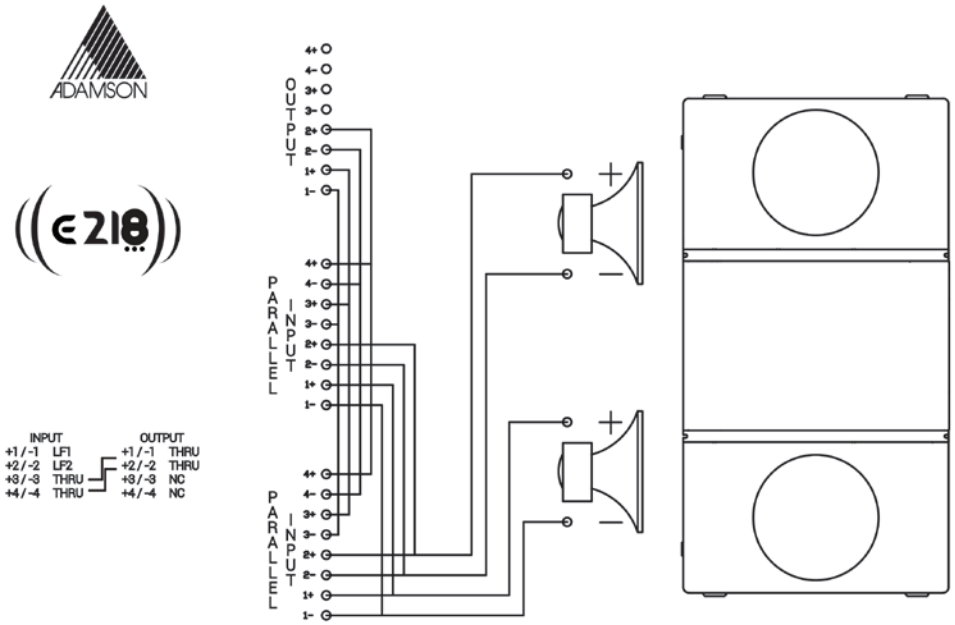
E15
3-way line source enclosure [975-0001]
LF - 2x 15" ND14-L[940-0013], MF - 2x 7" YX7 [940-0020], HF - 2x 4"NH4 [140-0004]
Autolock™ rigging system



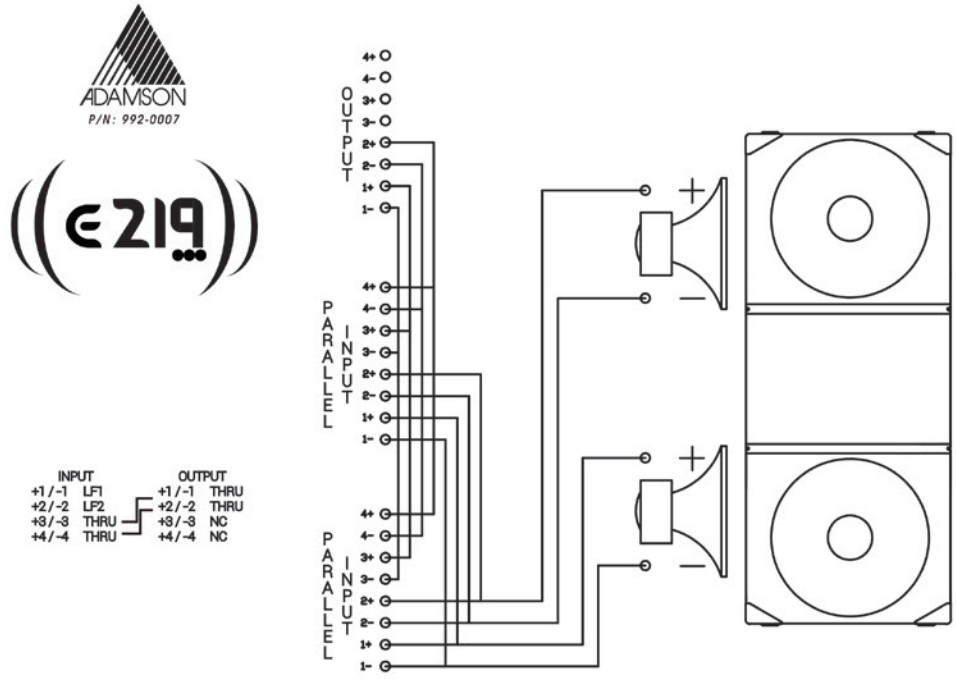
System Configuration

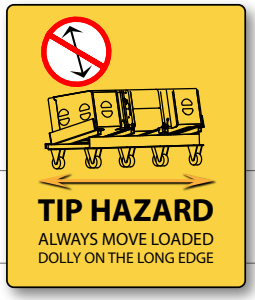
2.3 Wiring Diagrams

E218
[992-0007]
Subwoofer: LF - 2x 18″ ND18-S [940-0023]
Integrated rigging system



E219
[994-0001]
Subwoofer: LF - 2x 19″ SD19-ND [940-0024]
Integrated rigging system



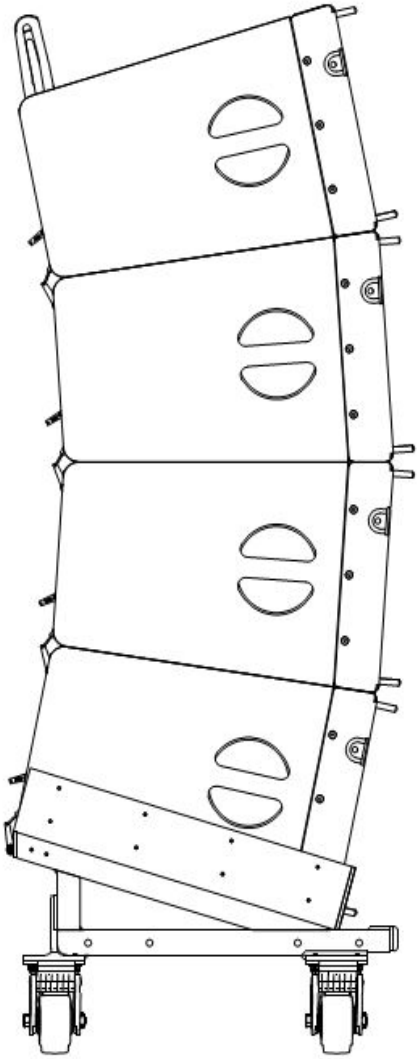


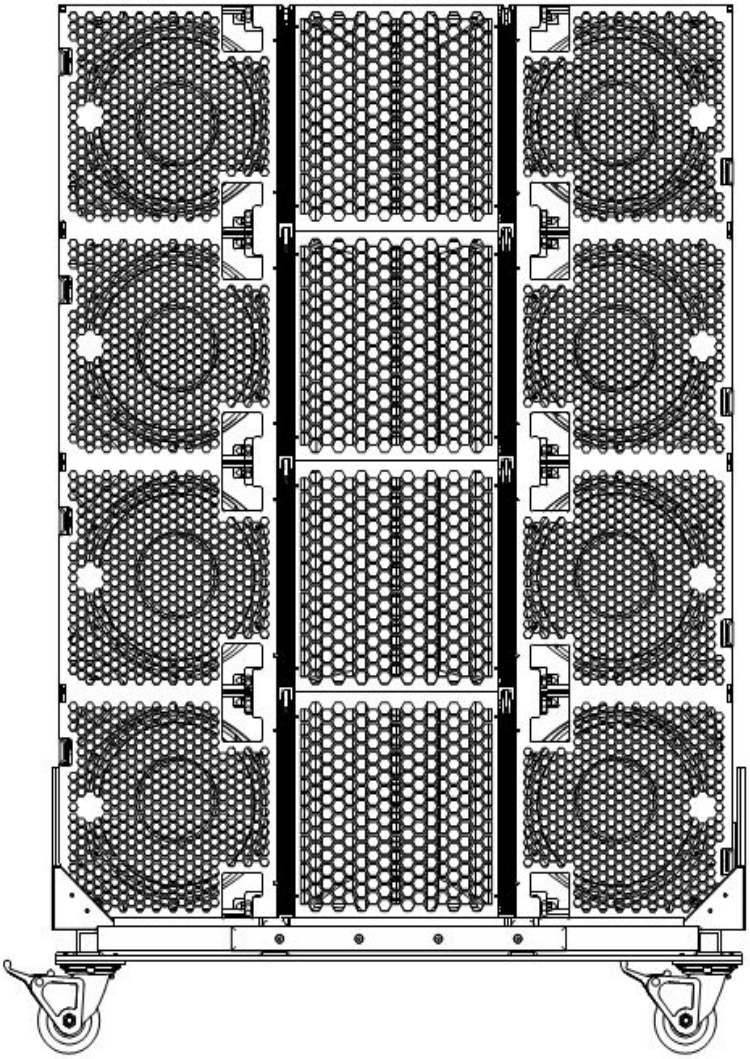
3.0 The 4 Stack Dolly

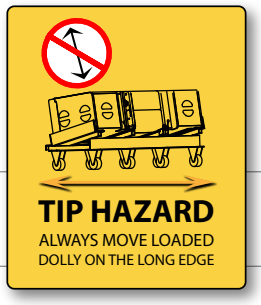
Transporting the 4 Stack Dolly

There is a tip hazard when transporting a 4 stack on uneven ground or on a ramp. To avoid tipping the dolly, It should always travel with sides of the cabinet to the front or back.

*On the 4 stack dolly, the bottom cabinet is held in place by the rear, red autolock mechanism..







3.1 Rigging Overview

The Autolock Rigging System™

The Autolock Rigging System™ is the main attachment for all of the points in the E15/E12 system. The idea is to only guide the latches to the right spot, where a spring-loaded bolt snaps into place, and is then secured with the very same lever by turning it into its lock down position. Caution should be taken while connecting cabinets to ensure hands are out of the way.

The order of operation of the rigging system is: prep angles, arm pins, guide into place (pinning happens automatically) and secure rigging parts manually to 'closed' position.

The levers are color coded for ease of use. All front rigging have black levers at bottom and and blue levers on top, the rear levers are red.

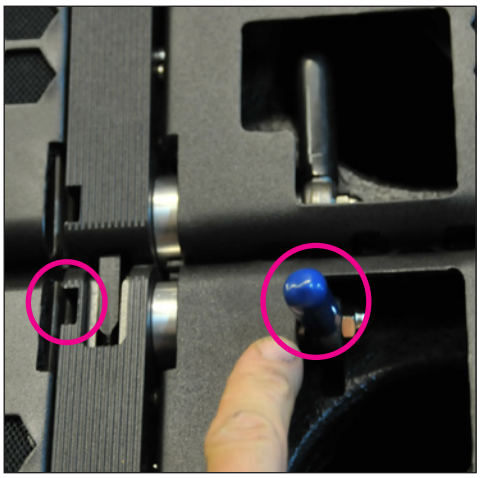


Fig. 1
The Autolock™ Rigging features a 'peep hole' where you can see the rigging bar when it is locked. When it is unlocked you will see a clear avenue. To be sure, make sure you can set all blue and red levers to 'Closed' position (down).

The black bottom levers hold and release the rigging bar from the box above, the blue top lever receives the rigging frame, as well as the above box's rigging bars and locks them into place. The black lever only has one function; to release rigging bar either to put into use or to store it away. Pull it to release, let it go and it flips back into place.

The blue and red levers have 3 functions: Closed, Spring, and Open. (pages 25-26)

All rigging levers feature a 'peep hole'(Fig. 1) where you can assure the the pin is fully ejected and is in fact in its proper place. Always make sure your red and blue levers are set to 'Closed' position.

Rigging

3.1 Rigging Overview

Fig. 2

The rear of the E-Capsule also features an angle chart with a knob lever which adjusts the angles. (Fig. 2) All angles are set while the cabinets are stacked on the dolly, ensuring that a single technician can prep the cabinets for rigging. For a more detailed look at the rigging sticker, please refer to section 3.4.

0	0°
1	0.5°
2	1.0°
3	2.0°
4	3.0°
5	4.5°
6	6.3°
7	8°
R	in enclosure

Fig. 3 E12

0	0°
1	0.3°
2	0.6°
3	1.3°
4	2.0°
5	3.1°
6	4.4°
7	6°
R	in enclosure

Fig. 4 E15

There are 8 angles, 0 to 7, and an additional 'R' being the 'idle' or 'rest' position, when the rigging hardware is all the way down and the boxes aren't connected. It is applicable when the enclosure is not in use, to protect the rigging hardware from damage. To keep the system intact for transport, leave the angles pinned in.

The angles are numbered as well as color coded to mark which slot should be pinned with the attached push-pin. The following rigging positions are equal to the following degrees for the E12 (Fig. 3) and the E15 (Fig.4).

3.1 Rigging Overview

The E-Frame with Extender Beam is designed for use with the E12 and E15 cabinets. It consists of a steel frame, paired with an extension beamof which there are several combination configurations. **Always refer to Blueprint AV™ for correct rigging instructions.**

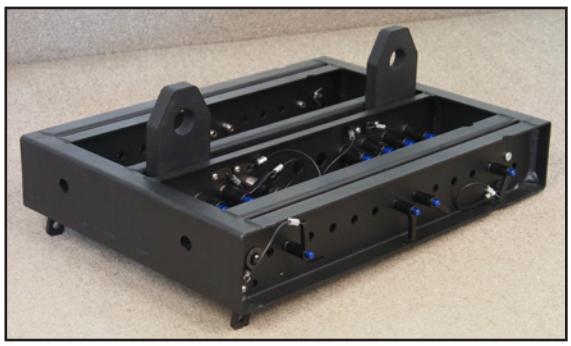


Fig. 1

In standalone mode (Fig. 1), the frame can be used to lift flat to slightly-angled arrays. Two rigging plates are provided for dual motor operation, and if two motors are not available, one lifting plate may be repositioned towards the center of the frame. Please refer to Blueprint AV™ when determining proper lifting plate location.

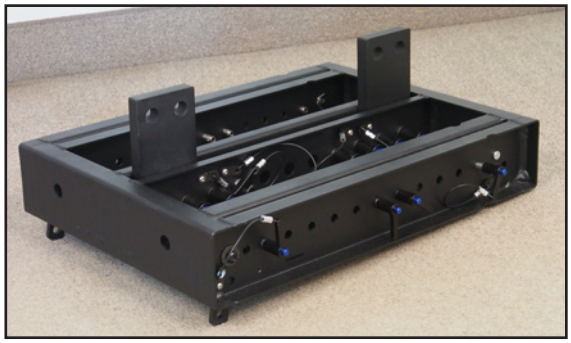


Fig. 2

In order to attach the extended beam, the lifting plates must be removed and replaced with Extended Beam plates, characterized as having a rectangular shape and two smaller holes at the top of each plate. (Fig. 2)

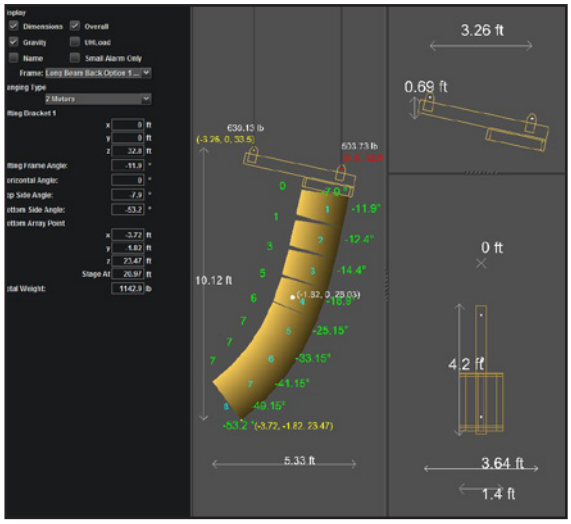
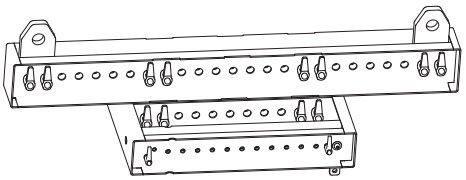


Fig. 3

As arrays get longer and more curved, the center of gravity will shift, making it necessary to position the rigging beam and rigging pieces so that the motors carry equivalent weight. The 'Mechanical' tab in Blueprint AV™ will aid the user in choosing the correct rigging frame configuration. (Fig. 3)

3.1 Rigging Overview



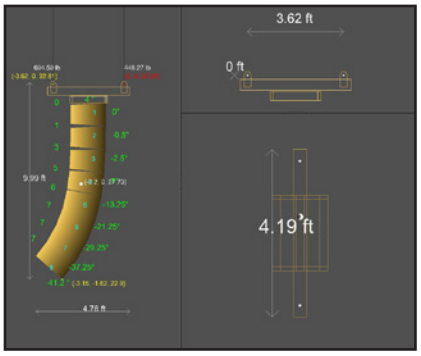
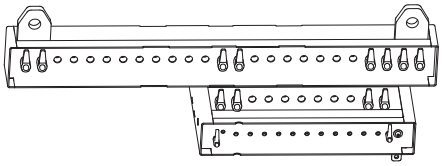


Fig. 1

For arrays with little to no incline, the extension beam centered will usually provide the best weight dispersion.



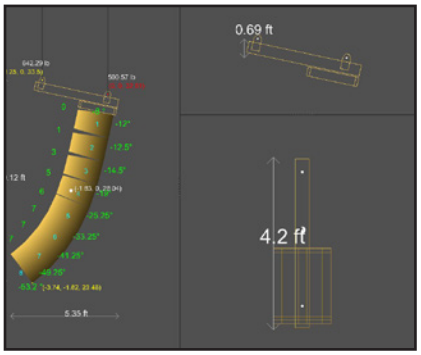
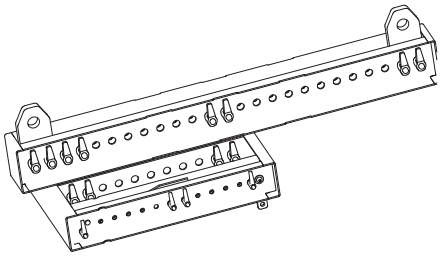


Fig. 2

For arrays with negative incline, the extension beam positioned towards the back of the frame will provide the best weight dispersion.



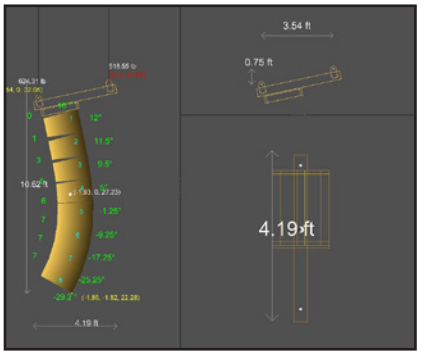


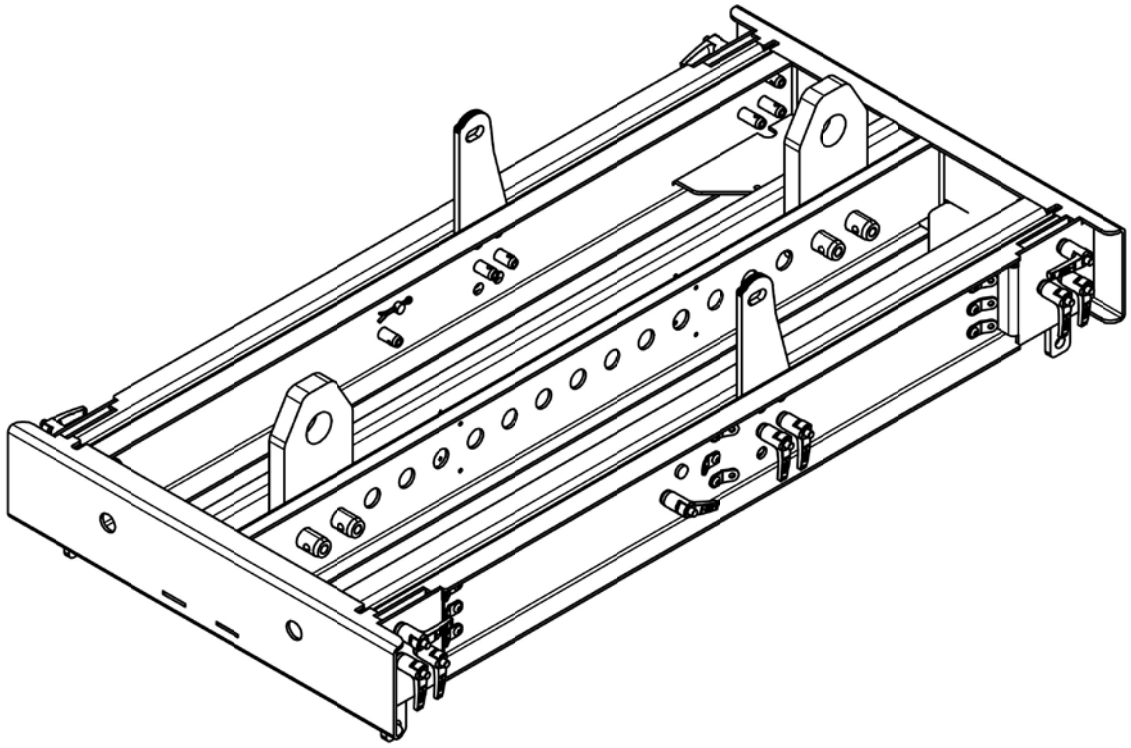
Fig. 3

For arrays with positive incline, the extension beam positioned towards the front of the frame will provide the best weight dispersion.

Rigging

3.1 Rigging Overview

The E-Frame Full Range is designed for use with all E-Series enclosures. It consists of a steel frame, long enough to not need the addition of an extension beam. It can be configured as a standalone frame to hang any cabinet, or as an adapter frame to hang top cabinets under flown subs, or to stack top cabinets on ground stacked subs. **Always refer to Blueprint AV™ for correct rigging instructions.**



The frame faces one direction while in stacking mode and is reversed when in hanging mode. If the E218/E219 and E12/E15 are to be flown in the same array, two frames are needed. Please refer to sections 3.10 and 3.11 for detailed descriptions of how to deploy the frame.

3.2 Rear Rigging

Rear Autolock Rigging - Red Lever

The 3 different modes of the red lever:
1. Closed (Locked)
2. Spring Mode
3. Open (Locked)

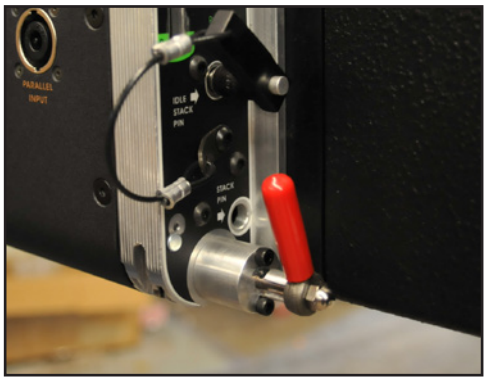


Fig. 1

In the 'Closed' mode (Fig. 1) the lever is in and turned upward or downward (both up and down lock the system - decide which way you'll be using it, and close all the enclosures the same way for uniformity.

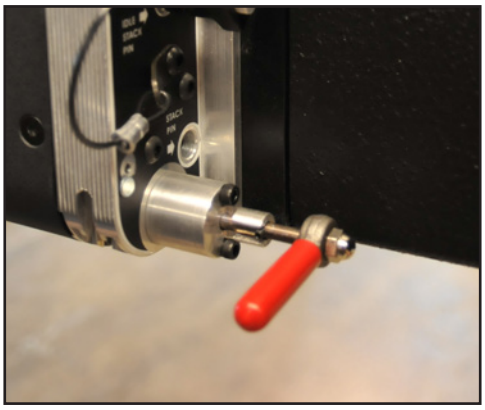


Fig. 2

The lever is pulled out and parallel to the ground in 'Spring' mode (Fig. 2)

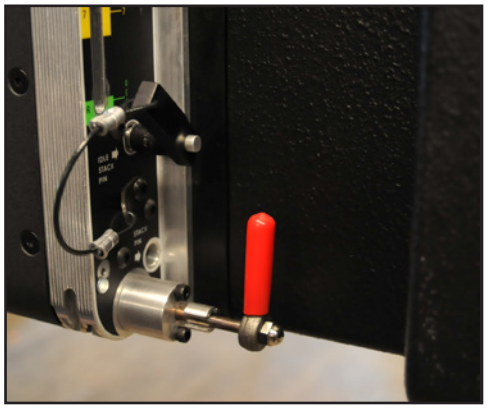


Fig. 3

The lever is out and turned downward or upward in 'Open' mode (Fig. 3). This mode is used when taking the system down ie on boxes 4-8-12-16... This mode can also be used on all enclosures when separating 4-stacks into individual enclosures.

3.3 Front Rigging

Front Autolock Rigging - Blue Lever

The 3 different modes of the blue lever:
1. Closed (Locked)
2. Spring Mode
3. Open (Locked)

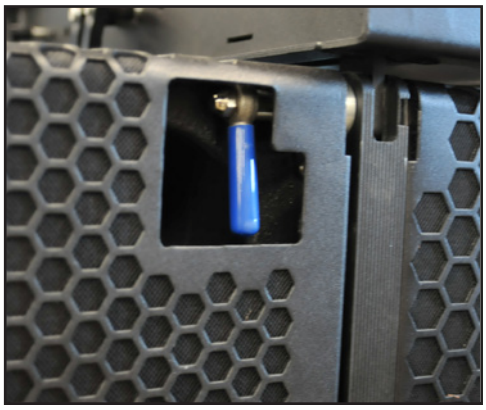


Fig. 1

'Closed' (Fig. 1)- the lever is in and turned downward to lock the system.

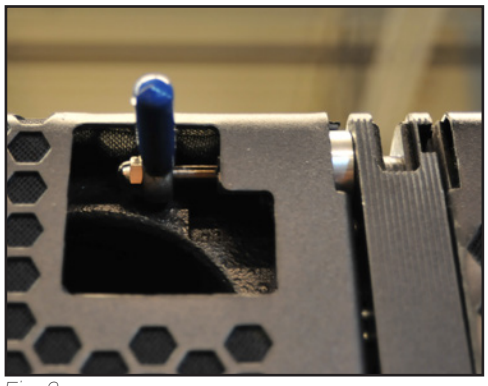


Fig. 2

The lever is pulled out and parallel to the ground in 'Spring' mode (Fig. 2)

Fig. 3

The lever is pulled out and turned downward. This 'Open' mode (Fig. 3) is used in taking the system apart. ie on boxes 1-5-9-13. Also on all enclosures when separating 4 stacks for maintenance etc.

3.3 Front Rigging

Front Autolock Rigging - Black Lever

There is only 1 mode of use for the black lever.

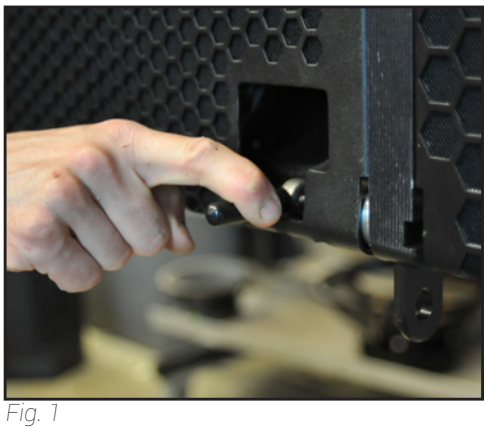


Fig. 1

The lever is pulled out and parallel to the ground in temporary 'Open' mode (Fig. 1)- this releases the rigging bars from inside the enclosure. The lever snaps back into place ready to be fastened to 'Closed' mode. To place the rigging bars back into the enclosure just pull lever out again and push gear back into place.

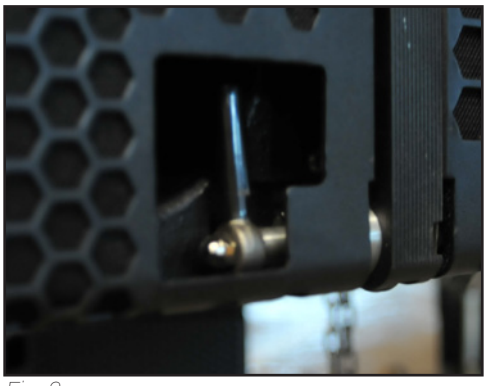
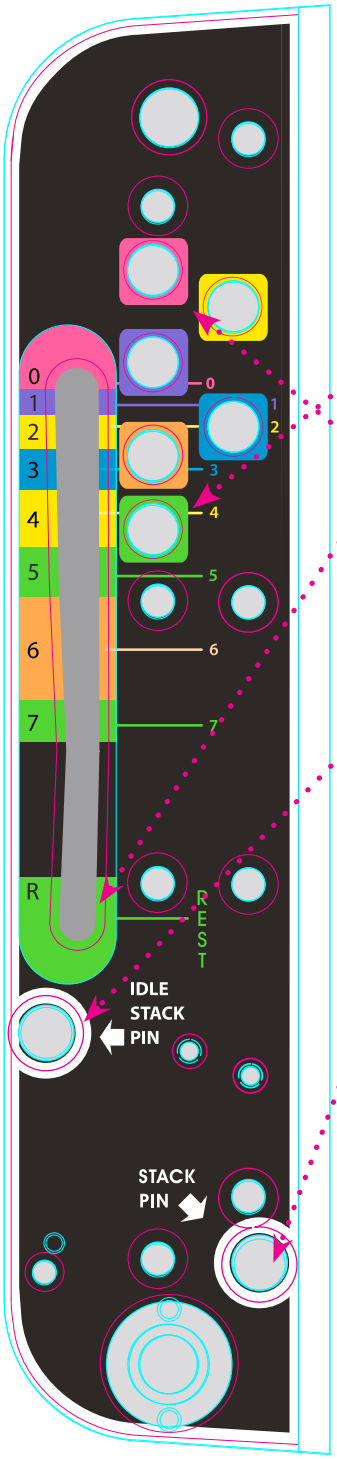


Fig. 2

Make sure system is fully fastened in the 'Closed' mode (Fig.2) by using the 'peep hole' prior to lifting.

3.4 Rigging Sticker Legend

Rear Autolock Rigging Sticker Legend



* When releasing and pulling the system apart (to enclose rigging bars) let knob slide down to 'rest' position (green), and place attached push pin to green slot (above) If you're dividing into 4 stacks, perform this task on every 4th box only.

* When needing a zero degrees angle (such as the top boxes of longer arrays) use magenta slot. Position 1 uses the purple slot, positions 2 and 4 use the yellow slot, position 3 uses the blue slot, positions 5 and 7 use the green slot and position 6 uses the beige slot.

* Idle Stack Pin slot is used when stacking mode is not in use. It is also used in a hanging rigging configuration where gravity allows all the angles to shift to the desired position.

* Stack pin slot is used when stacking the E15/E12 system, or needing a rigid flown array. (ie when the system is arrayed in a manner that gravity cannot sustain the desired angles). The user must ensure this pin is set on both sides of each cabinet.

Note: E12 sticker shown

3.5 Setting Angles

Setting the angles on all 4-stacks and basic preparation.

Before attaching cabinets together, use Blueprint AV™ to plan your cabinet angles for desired coverage. Prepare all the cabinet angles before beginning to attach and lift the array. The top cabinet, which attaches to the rigging frame is number 1, and the cabinets gain numerically as the descend. Make sure you are setting the correct angle on both sides of the E-Capsule.

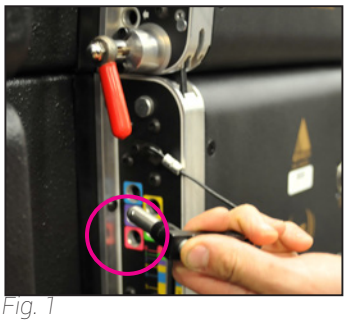


Fig. 1

1. The front blue levers on the top cabinets of each 4-up dolly are on 'Spring' mode.
2. Red levers in the rear on the BOTTOM cabinet of each 4-stack are in 'Spring' mode, abling the hook-up of the next cabinet stack.
3. Remove the angle pin. (Fig. 1)

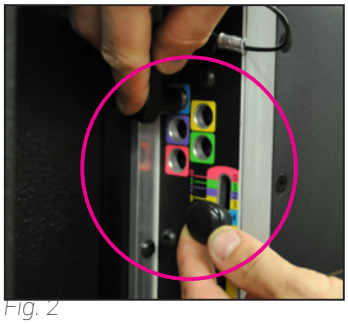


Fig. 2

4. Raise the sliding knob to the angle specified by corresponding Blueprint AV design and place the angle pin in the corresponding color-coded slot. (Fig. 2)

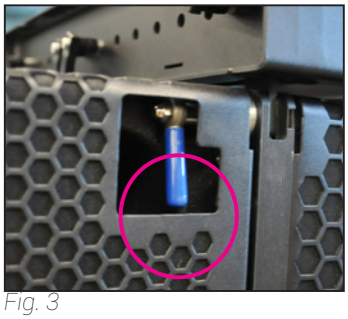


Fig. 3

5. Remember to check that all cabinets are fully bolted through and locked by confirming that all levers can be placed in 'Closed' mode. (Fig. 3) Make sure to perform this every time even with enclosures which are already pinned, to guarantee than no one has changed the mode of the levers during set-up, tear-down or transport.

Fig. 4

6. Stack pin should always be in "Idle Stack Pin" mode unless you're ground stacking the system or need a rigid array.(Fig. 4)

3.6 Attaching the Rigging Frame

The rigging Frame contains 4 pins: 2 in the front which are fixed in place and 2 in the rear, one of which needs to be pinned manually using attached push pin. The system ideally uses 2 motors: one in front, one in back of the frame for easy adjustment once the array has been flown. For flying from a single point, you'll need to firmly decide the angle of the frame prior to rigging all the cabinets.

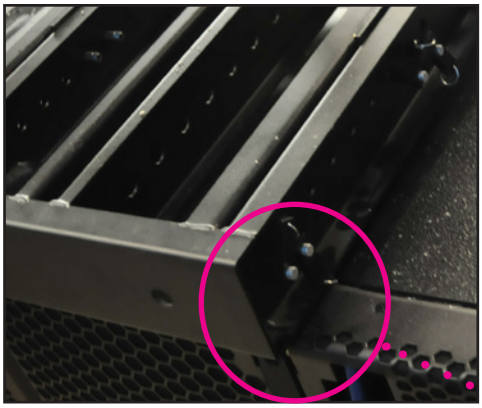


Fig. 1

1. Place top enclosure's blue levers to 'Spring' position on both sides.
2. The rear angle should be set to "2" or "Yellow" to successfully connect the top box to the rigging frame.
3. Lower frame and guide the front rigging to place. (Fig. 1)

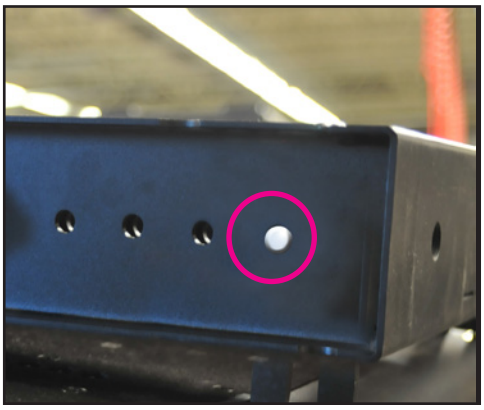


Fig. 2

4. Confirm through peephole that front rigging is locked into place, and the levers (blue) on both sides of the enclosure are in 'Locked' position.
5. Manually pin rear of frame to first enclosure using attached push pin. (Fig. 2)

3.6 Attaching the Rigging Frame

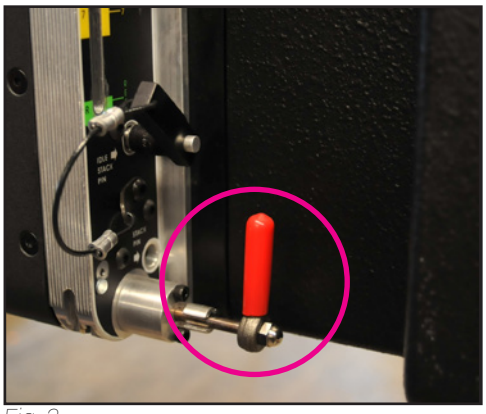


Fig. 3

6. Ensure the rear red pin that connects to the dolly on the bottom cabinet is in the open position. (Fig. 3)

Fig. 4

7. Lift cabinet stack up, release and lift off dolly. (Fig. 4)

3.7 Consequent Arrays

Fig. 1

Attaching the second and consequent arrays

1. Lift Frame with the attached 4 enclosures high enough to clear the next 4 -stack underneath. (they should all have their angles set)

2. Place rear rigging (red levers on box #4, 8, 12, 16...28) to 'Spring' mode, make sure the same cabinets' front rigging bars are released using black levers. (Fig. 1)

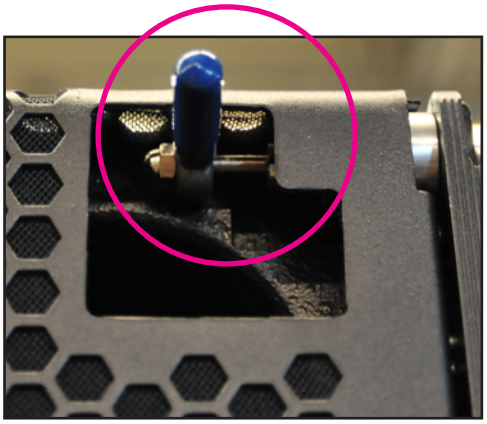


Fig. 2

3. Place front rigging's blue levers (box #5, 9, 13, 17...29)... (first box in the new 4-stack to be suspended) to 'Spring' mode (Fig. 2)

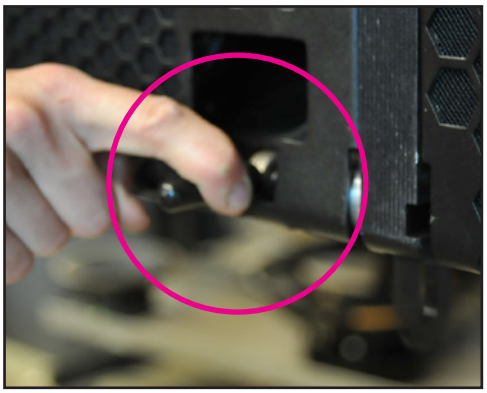


Fig. 3

4. Pull front rigging's black lever (box #4,8,12,16...28) allowing the rigging piece to drop. (Fig. 3)

3.7 Consequent Arrays

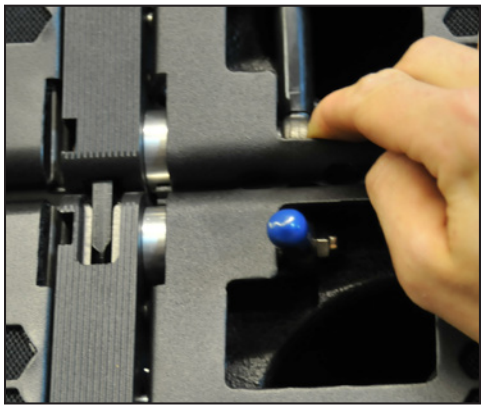


Fig. 4

5. If dealing with a large amount of cabinets and high rigging points, its best to keep the lower stack pushed slightly back to allow for any spring in the motor and top rigging. Trying to lower an array that is not lined up properly can damage the cabinets. Once the upper array is at the desired position, wheel the lower stack into position so the front rigging points are lined up in the slot. Lower the front of the cabinets until the rigging latches catch, and continue to lower until the rear pin latches. (Fig. 4)

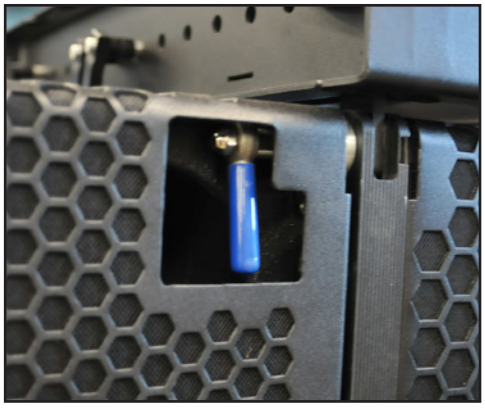


Fig. 5

6. Place all levers to 'Closed' position. (Fig. 5,6 &7)
7. Make sure that all rigging is latched properly through the 'peephole' or by confirming that all levers are in 'Closed' mode.
8. Continue and repeat process until you have hung the total amount of desired cabinets.

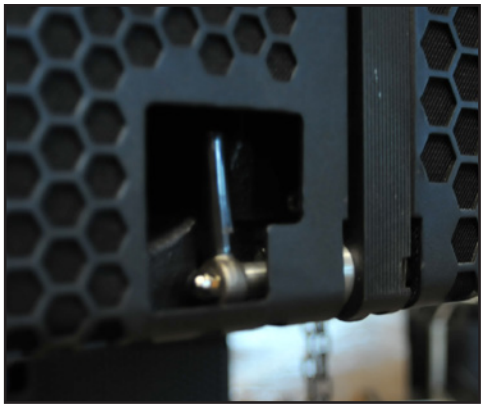


Fig. 6

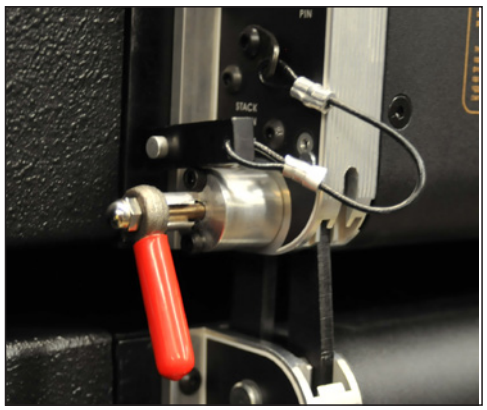


Fig. 7

3.8 Highly Curved Arrays

Connecting a 4 stack to a highly curved array

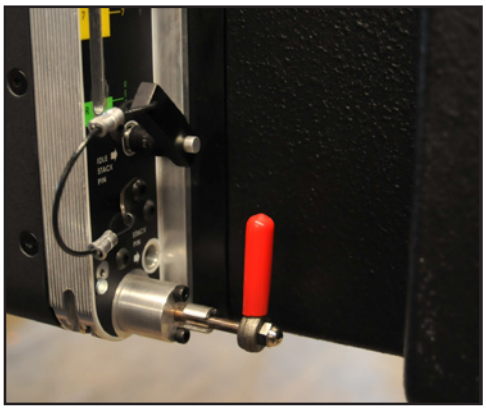


Fig. 1

When connecting a 4 stack of cabinets to a steep flown array, it may not be safe or practical to continue to lower the array to make the rear attachment (once the fronts are connected). It is also not recommended to tip the lower dolly forward as this can be dangerous. The easiest connection method is as follows:

1. Place ALL rear red levers on the 4 stack on the ground to the "open" position. (Fig. 1)

Fig. 2

2. Set the front blue levers on the top cabinet of the 4 stack to the "Spring" position (Fig. 2)
3. Connect the front of the upper array to the 4 Stack in the same manner as outlined in section 3.7, #5.
4. Lift the motor slightly so that there is minimal weight on the dolly of the 4 stack - without actually lifting the dolly from the ground

Fig. 3

5. Ensure the rear red lever on the bottom cabinet of the flown array is set to "spring" mode. (Fig. 3) Lift the top cabinet in the stack by hand, so it meets the upper array. The rear red lever should automatically latch in place. This should be relatively easy with two people. If the cabinet seems very heavy- there is too much weight on the cabinet- and the motors must be raised slightly.
6. Set the next rear red lever to "spring" mode
7. Repeat steps 4-6 until all cabinets are connected at the rear.

NOTE: With enough stage hands, this process can be carried out with two cabinets at a time- meaning only the red lever connecting the backs of the 2nd & 3rd cabinet need be disconnected. Please ensure safe lifting practices are being adhered to to avoid injury. If straining to lift cabinets - use more stage hands or try lifting the motors slightly.

3.9 Lowering the Array

Fig. 1

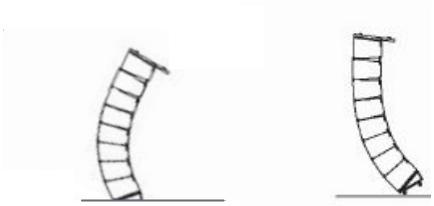


Fig. 2 *Fig. 3*

Fig. 4

To Lower a Steep Angled Array

1. Lower the array until it is just above the floor. (Fig. 1)
2. Make sure the rear red lever on the bottom box is set to "spring" mode to receive the dolly.
3. Connect the dolly to the bottom cabinet.
4. If the bottom cabinets are at a steep angle and it is unsafe to continue to lower the array, two crew members should be used to support the weight of the cabinet at all times; before the dolly has ground contact, (the dolly should never tip over as in (Fig. 3) push the hang to the front in order to prevent the dolly to tip over, then proceed lowering the array (Fig.2); release the red lever above this cabinet to free the rear of the bottom cabinet.
5. All front levers should stay connected. This will allow you to raise the motors until the frame is no longer steeply angled. (Fig. 4)
6. Set front blue lever on top cabinet in 4 stack to open. and allow the bottom 4 cabinets to separate from the array.
7. Lift the array just above the 4 stack and wheel 4 stack out from under array. (Fig. 5)

If the bottom cabinet in the array is still at a steep angle - repeat this procedure.

Fig. 5

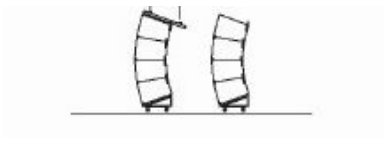


Fig. 6

To Lower a Moderately Angled Array

1. Lower the array till it is just above the floor. (Fig. 1)
2. Make sure the rear red lever on the bottom box is set to "spring" mode to receive the dolly.
3. Connect the dolly to the bottom cabinet.
4. Lower the array till all the rear angles collapse in the bottom 4 stack.
5. Set the front blue lever on the top enclosure of the 4 stack to open.
6. Set the rear red lever on the bottom of the upper array to open.
7. Lift the array above the 4 stack (Fig. 5)
8. Wheel 4 stack out of the way

Repeat procedure until done. (Fig. 6)

3.10 Rigging the E Sub

The E218 an E219 rigging system is based on the same concept as the Energia Autolock™ system, but simplified. A less complex system without spring loaded locking mechanisms allows the user to quickly connect and fly a multitude of E-Series Subwoofer cabinets.
The E-Frame Full Line has two modes; flying and stacking. A tray for the Adamson Laser Inclinometer exists at one end of the frame. If the tray is facing forward, the frame is in flying mode. If the tray is facing backwards, the frame is in stacking mode.

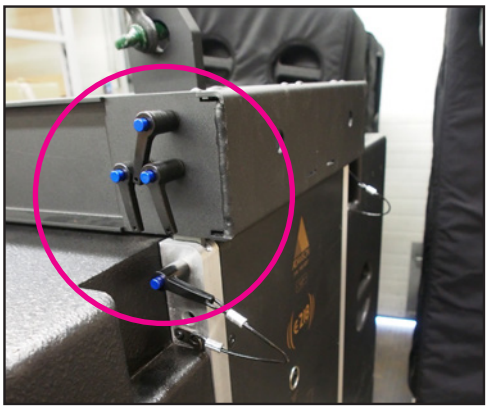


Fig. 1

Four rigging pieces drop down from the center capsule to connect another E218, E219 , or an E-Frame Full Line to adapt for use with an E12 as well. Four chambers at the top of the center capsule allow connection between 2 E218 Steps to rigging the E-Series Subwoofers:
1. Set the angle of all cabinets to be flown to either 0° or 3° splay, as specified in your Blueprint AV™ design. (Note that in order to connect the top box to the rigging frame, the angle must be set to 0°)
2. Attach the E-Frame Full Line to the top E218 or E219 cabinet and secure in place with the push pins provided (Fig. 1)

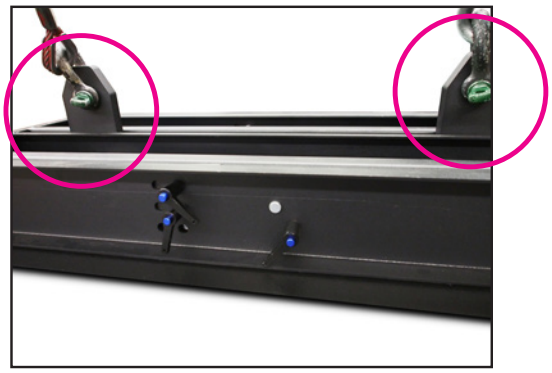


Fig. 2

3. Due to the depth of the E-Frame Full Line, no external beam is needed. Attach rigging plates to the rigging frame in the positions specified in the Mechanical page of your Blueprint AV™ design. (Fig. 2)

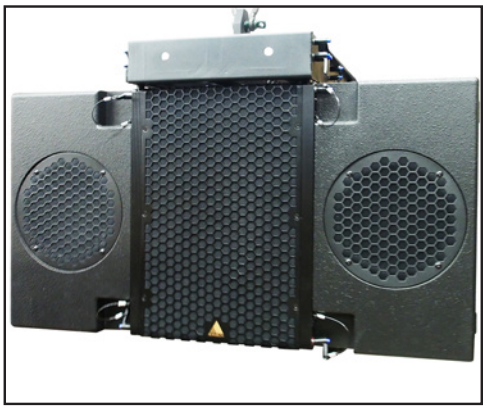


Fig. 3

4. Lift the Frame with the E-Series Subwoofer attached. (Fig. 3) If more E218 or 219 are to be flown, repeat step 1 for the next dolly, lower the already rigged Subwoofers to the next set, position the rigging pieces and secure them using the push pins.

3.11 Attaching Tops to Subs

The E-Frame Full Line is designed to allow all members of the E-Series family to be safely rigged to one another, whether it is in a ground-stacked or flown scenario.

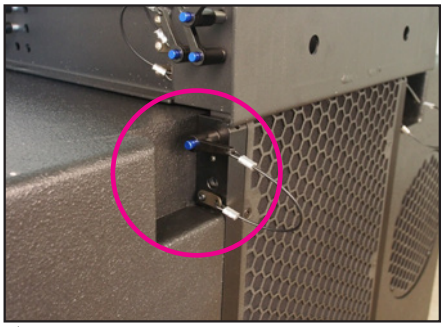


Fig. 1

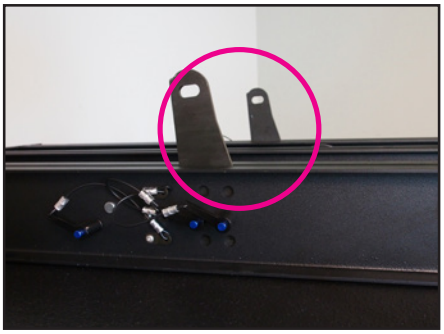


Fig. 2

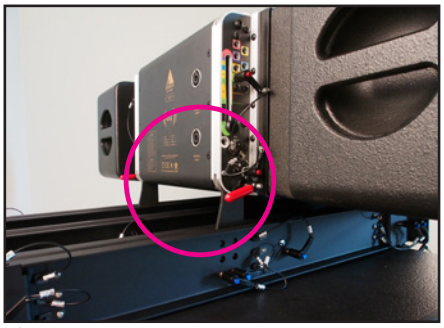


Fig. 3

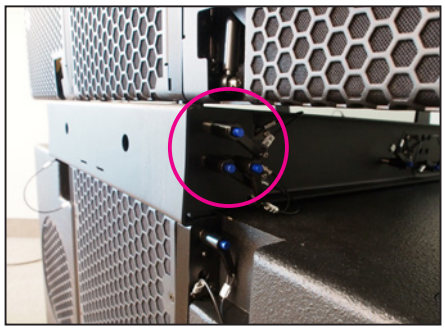


Fig. 4

Ground Stacked

1. Place E218 cabinets where the Blueprint AV™ design specifies.
2. Attach the E-Frame Full Line to the top E218 cabinet and secure in place with the push pins provided with the E218. (Fig. 1)

3. Make sure the Stacking Plates are in the up position, and secured with the push pins provided. The position of the Stacking Plates is adjustable, follow what the Blueprint AV™ mechanical tab displays. (Fig. 2)

4. Set the E12/E15 red lever to "Spring" mode and place the cabinet on the rigging frame, confirm the rear rigging is locked. (Fig. 3)

5.Release the front rigging pieces by opening the black levers on the front of the E12/E15.
6. Secure in place to the E-Frame Full Line using the top, front push pin. (Fig. 4)
7. Add cabinets as specified by the Blueprint AV™ design.

3.11 Attaching Tops to Subs

Note: The steps in section 3.10 must be complete before going any further

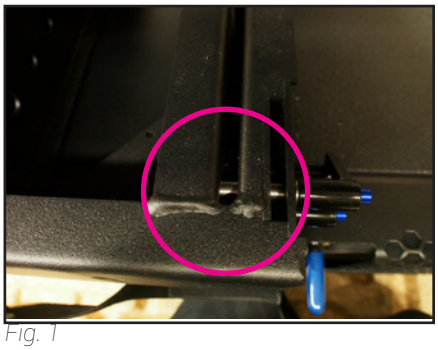


Fig. 1

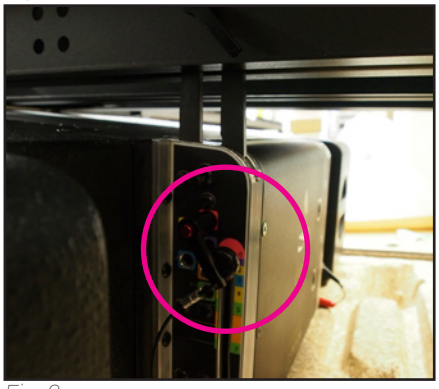


Fig. 2

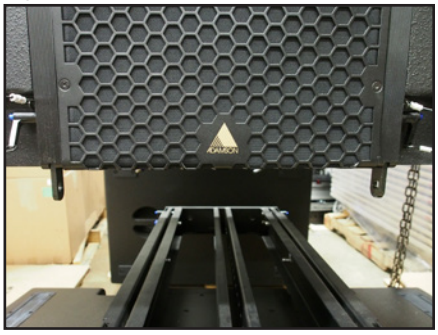


Fig. 3

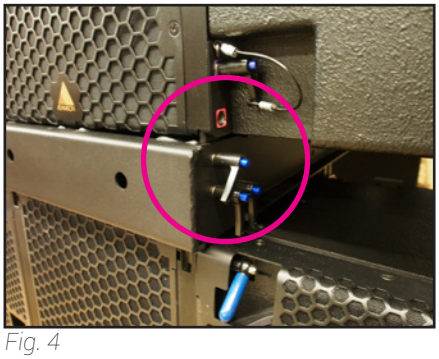


Fig. 4

E12 / E15 as an Underhang

Pictures shown are E12 and E218, the same principles apply to the E15 and E219.

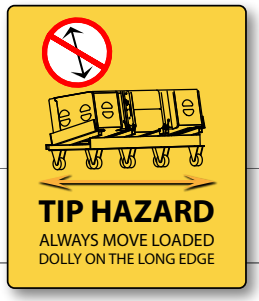
1. Set all E12 angles while still on the dolly.
2. Set blue levers on the top E12 box to 'Spring' mode.
3. Move front lower rigging pieces on the E-Frame Full Line to the inner channel and secure in place with the push pins provided. (Fig. 1)
4. Place E-Frame Full Line on the E12 and confirm the front rigging is locked.
5. Set the rear knob lever to 0 and lock in place using the push pin. (Fig. 2)

6. Remove Rigging and Stacking Plates from the Energia Modular Rigging Frame.
7. Release the lower rigging pieces of the suspended E218 and remove the upper push pin from each corner of the E-Frame Full Line. (Fig. 3)

8. Lower and guide the suspended E218 onto the rigging frame, securing the rigging pieces to the E-Frame Full Line, using the push pins previously removed. (Fig. 4)
9. Lift the array and add full range enclosures as specified by Blueprint AV™ (Fig. 5)

Fig. 5

Ground Stacking



4.0 Ground Stacking Legs

Dolly Stacking Legs (938-0014)

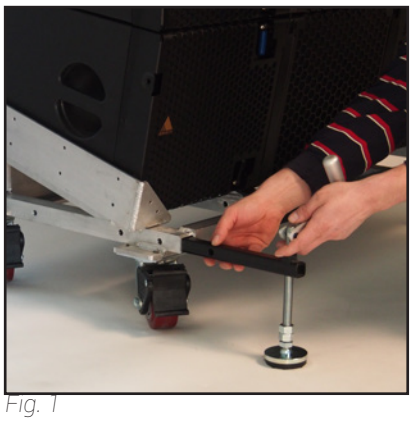


Fig. 1

Available as an accessory, the Ground Stacking Legs allow users to angle the E12 or E15 in positive or negative increments while situated on the E12 or E15 Dolly.

1. Make sure all wheel locks are engaged and the dolly is situated where the design has specified.
2. Insert stacking leg into rectangular chamber directly above the dolly wheel. (Fig. 1)

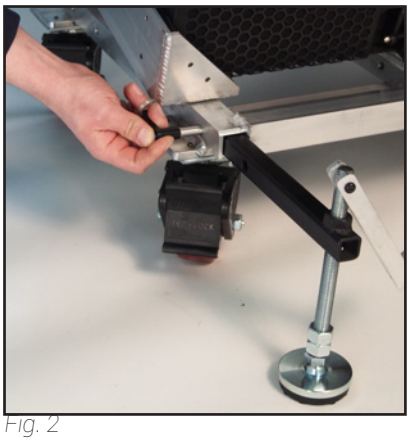


Fig. 2

3. Insert first push pin into the hole directly above the dolly wheel. (Fig. 2)
4. Insert second push pin into the hole above and behind the dolly wheel. (Fig. 3)
5. Repeat procedure for all four stacking legs.
6. Turn handle until all stacking legs are firmly planted on the ground. (Fig. 4)
7. If a negative inclination is desired, tighten the back two stacking legs until desired incline is achieved.
8. If a positive inclination is desired, tighten the front two stacking legs until desired incline is achieved. (Fig. 5)

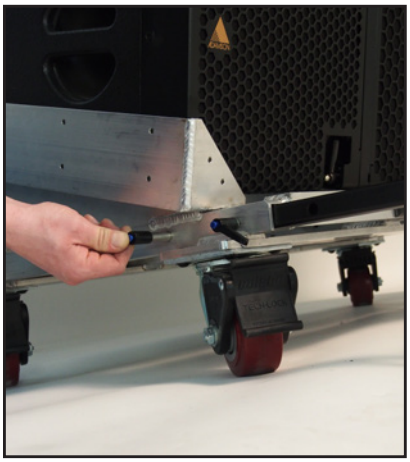


Fig. 3

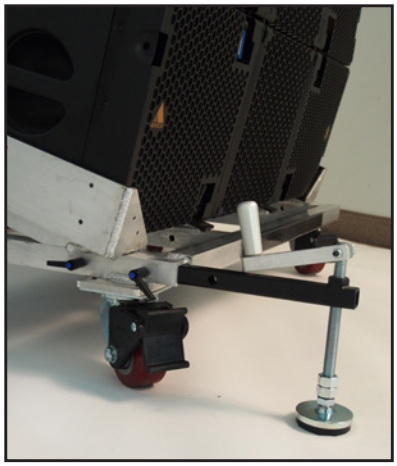


Fig. 4

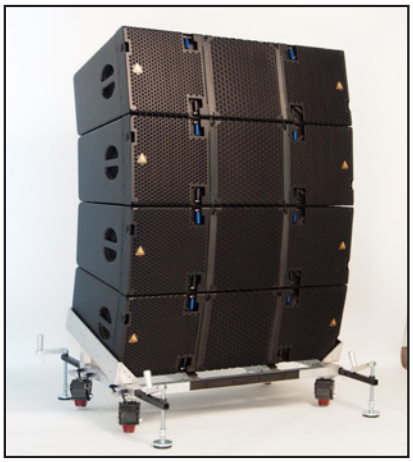
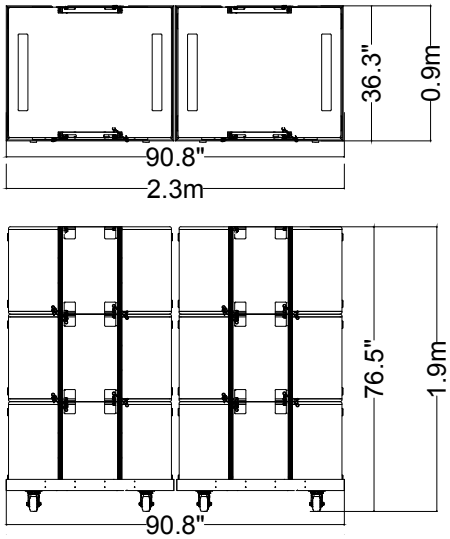


Fig. 5

Truck Pack

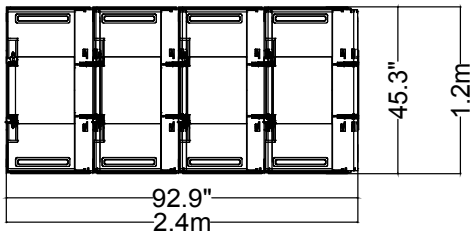
5.0 Possible Configurations

The E-Series system has been designed to fit standard truck widths in several different configurations. This section shows some of the options.



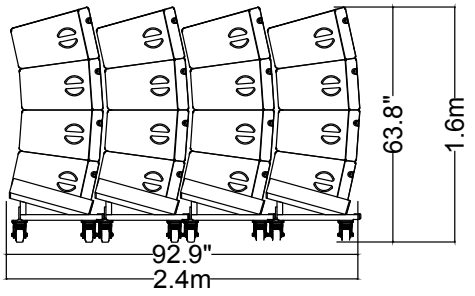
2x E218 Wide

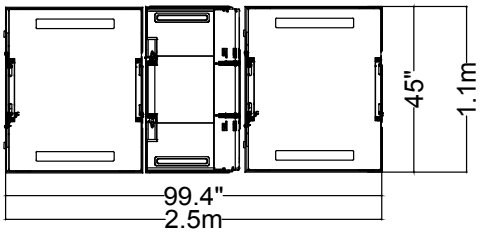
Two 3-high E218 dollies are tight packed end-to end for a width of approximately 91", and a depth of approximately 36".

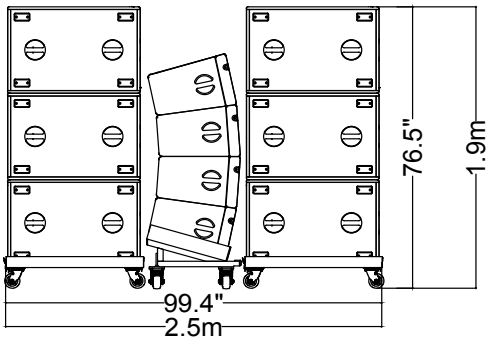


4x E12/E15 Symmetrical

Four 4-high E12 dollies are packed front to back for a width of approximately 93", and a depth of approximately 45".







2x E218, 1 x E12

Two 3-high E218 dollies flank a single 4-high E12 dolly with a width of approximately 99" and a depth of approximately 45".

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